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VCT-2110
VCT-2210
VCT-2310
VCT-2410
VCT-2510



A M E R I C A N C R A F T E D P E R F O R M A N C E

Owner's Manual **www.lanzar.com**

congratulations...

Congratulations on your purchase of a Lanza VECTOR series amplifier. You have purchased a quality product designed and engineered to give you many years of uncompromised musical service. VECTOR series amplifiers are designed with the latest technology available, which provides headroom for even the most demanding peaks and dynamic ranges found on modern CD's and recordings.

Lanza

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features and specifications

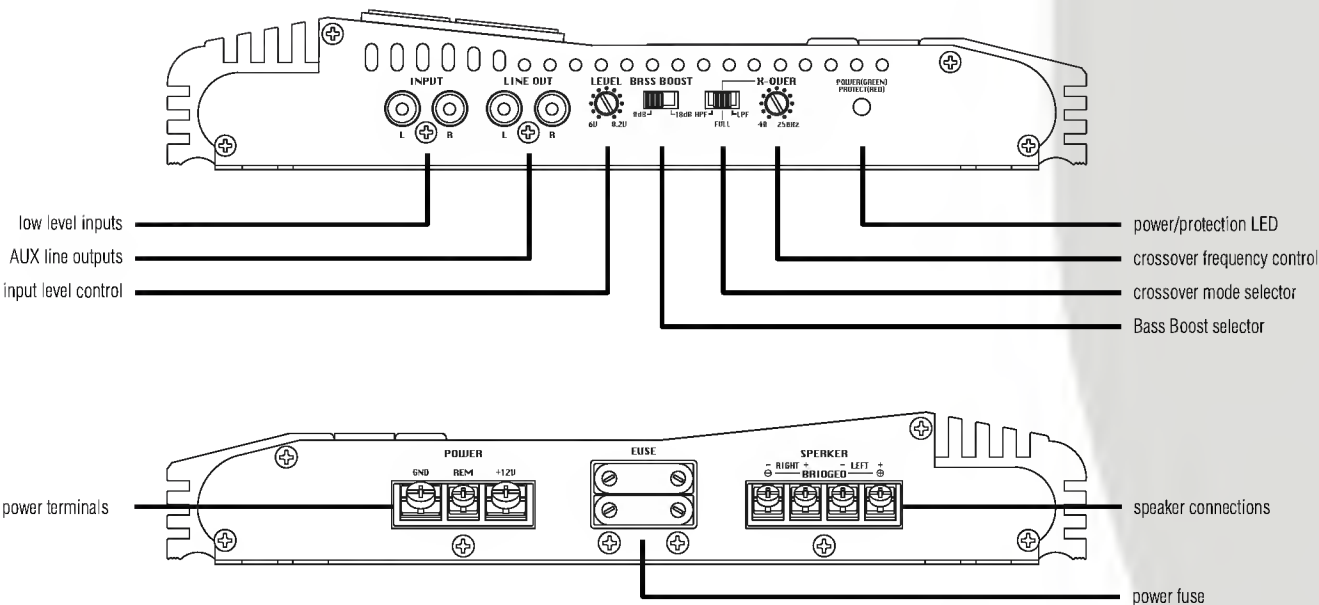
2 ch amp VCT-2110 • VCT-2210

- crossover mode selector** When used with normal, full range system, set this switch to "FULL". If you wish to use the internal crossover to power a driver or specific frequency range, use the "LPF" or "HPF" FOR the "LOWPASS" OR "HIGHPASS" settings.
- input level controls** Enables the matching of input levels to the output levels from head unit (or other signal source). The input sensitivity of adjustment ranges from 6V to 200mV.
- crossover frequency control** When crossover mode selector is in HIGHPASS mode, this control sets the lower frequency limit for audio program sent to the speakers. When crossover mode selector is in LOWPASS mode, this control sets the upper frequency limit for audio program sent to the speakers. The crossover is continuously variable adjustment from 40 to 250 Hz.
- bass boost selector** This selector switch permits the bass level an increase of 18dB. (VCT-2110/2210)
- low level input** This amp features RCA type jacks for high impedance input. Use these with car stereo output which uses RCA type connector cables.
- high level input** If your car stereo jacks are not RCA type output, use the high-low level input adaptor to connect the speaker output leads of carstereo and the RCA input jacks of amp.
- AUX line outputs** This amp features RCA jacks for AUX line outputs. Use these for unlimited system expansion to the next VECTOR.
- power LED** This indicator is illuminated in GREEN when power is applied.
- protection LED** This indicator is illuminated in RED when the built-in protection circuitry is activated.
- power fuse** The fuse protects the amplifier and your car's electrical system from short circuit conditions.
- power terminals** Use these connectors to deliver power, ground, and remote turn-on control to the amplifier.
- speaker connectors** These terminals are to guarantee high conductivity and minimum signal loss.

output power @ 14.4v DC, 1KHz		VCT-2110	VCT-2210
RMS Power @ 4 Ohms		50 Watts x 2	100 Watts x 2
THD @ 4 Ohms		75 Watts x 2	150 Watts x 2
RMS Power @ 2 Ohms		75 Watts x 2	150 Watts x 2
THD @ 2 Ohms		100 Watts x 2	200 Watts x 2
Maximum Power Output		500 Watts x 2	1000 Watts x 2
Bridged Power at 4 Output		1000 Watts x 1	2000 Watts x 1
frequency response	_____	15 Hz-30 KHz	_____
input impedance	_____	10K Ohms	_____
low level inputs	_____		_____
input sensitivity	_____	200mV-6V Adjustable	_____
S/N ration	_____	>95dB	_____
channel separation	_____	>65dB	_____
crossover filters	_____		_____
low Pass	_____	40 Hz-250 Hz	_____
high Pass	_____	40 Hz-250 Hz	_____
bass boost	_____	0 / +18dB	_____
matching speaker impedance	_____		_____
stereo mode	_____	2-4 Ohms	_____
bridged mode	_____	4-8 Ohms	_____
maximum current draw		30A	40A
power supply voltage		14.4V DC Neg. Ground (10.5-16V)	
dimensions (W x H x L)			
mm		270 x 44.5 x 228	270 x 44.5x 305
inches		10.63 x 1.75 x 9	10.63 x 1.75 x 12

features and controls

2 ch amp VCT-2110 • VCT-2210



features and specifications

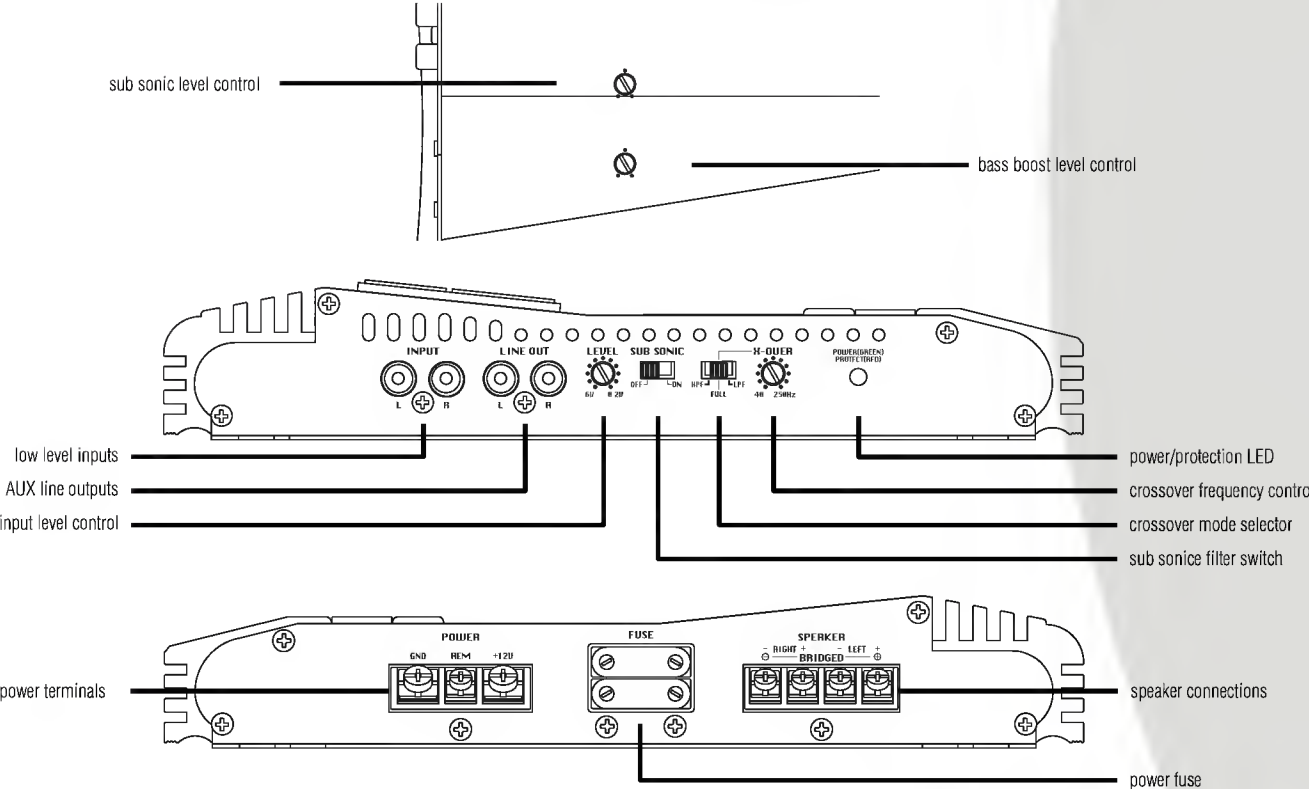
2 ch amp VCT-2310 • VCT-2410 • VCT-2510

crossover mode selector	When used with normal, full range system, set this switch to "FULL". If you wish to use the internal crossover to power a driver or specific frequency range, use the "LPF" or "HPF" FOR the "LOWPASS" OR "HIGHPASS" settings.
input level controls	Enables the matching of input levels to the output levels from head unit (or other signal source). The input sensitivity of adjustment ranges from 6V to 200mV.
crossover frequency control	When crossover mode selector is in HIGHPASS mode, this control sets the lower frequency limit for audio program sent to the speakers. When crossover mode selector is in LOWPASS mode, this control sets the upper frequency limit for audio program sent to the speakers. The crossover is continuously variable adjustment from 40 to 250 Hz.
bass boost level control	This control permits adjustment of the bass level up to an increase of approximately up to 18dB. (VCT-2310/2410/2510)
sub sonic control	When the sub sonic selector switch is in "ON" mode, this filter control permits continuously variable adjustment from 10 to 100Hz. (VCT-2310/2410/2510)
low level input	This amp features RCA type jacks for high impedance input. Use these with car stereo output which uses RCA type connector cables.
high level input	If your car stereo jacks are not RCA type output, use the high-low level input adaptor to connect the speaker output leads of car stereo and the RCA input jacks of amp.
AUX line outputs	This amp features RCA jacks for AUX line outputs. Use these for unlimited system expansion to the next VECTOR.
power LED	This indicator is illuminated in GREEN when power is applied.
protection LED	This indicator is illuminated in RED when the built-in protection circuitry is activated.
power fuse	The fuse protects the amplifier and your car's electrical system from short circuit conditions.
power terminals	Use these connectors to deliver power, ground, and remote turn-on control to the amplifier.
speaker connectors	These terminals are to guarantee high conductivity and minimum signal loss.

output power @ 14.4v DC, 1KHz	VCT-2310	VCT-2410	VCT-2510
RMS Power @ 4 Ohms	150 Watts x 2	200 Watts x 2	300 Watts x 2
THD @ 4 Ohms	250 Watts x 2	300 Watts x 2	450 Watts x 2
RMS Power @ 2 Ohms	250 Watts x 2	300 Watts x 2	450 Watts x 2
THD @ 2 Ohms	300 Watts x 2	400 Watts x 2	650 Watts x 2
Maximum Power Output	1500 Watts x 2	2000 Watts x 2	2500 Watts x 2
Bridged Power at 4 Output	3000 Watts x 1	4000 Watts x 1	5000 Watts x 1
frequency response		15 Hz-30 KHz	
input impedance			
low level inputs		10K Ohms	
input sensitivity		200mV-6V Adjustable	
low level inputs			
S/N ration		>95dB	
channel separation		>65dB	
crossover filters			
low Pass		40 Hz-250 Hz	
high Pass		40 Hz-250 Hz	
bass boost		0 ~ +18dB	
sub sonic filter		10-100 Hz	
matching speaker impedance			
stereo mode		2-4 Ohms	
bridged mode		4-8 Ohms	
maximum current draw	50A	60A	60A
power supply voltage	14.4V DC Neg. Ground (10.5-16V)		
dimensions (W x H x L)			
mm	270 x 44.5 x 381	270 x 44.5 x 432	270 x 44.5 x 532
inches	10.63 x 1.75 x 15	10.63 x 1.75 x 17	10.63 x 1.75 x 21

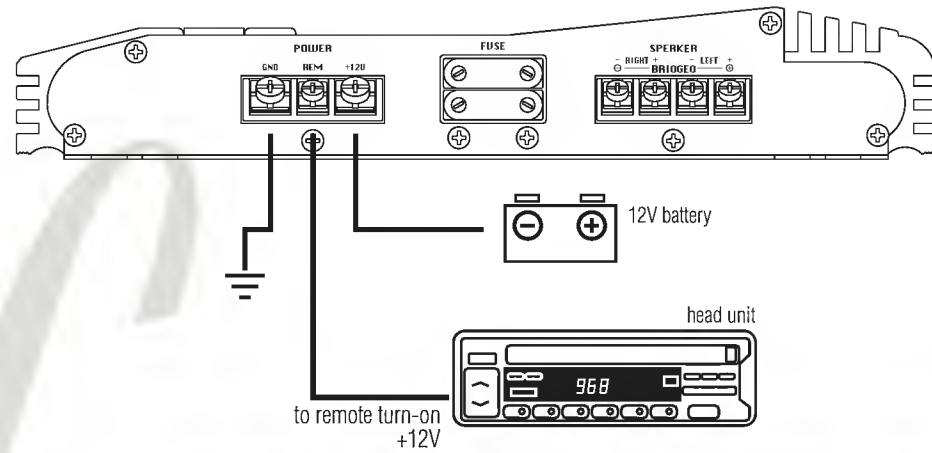
features and controls

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electrical connections

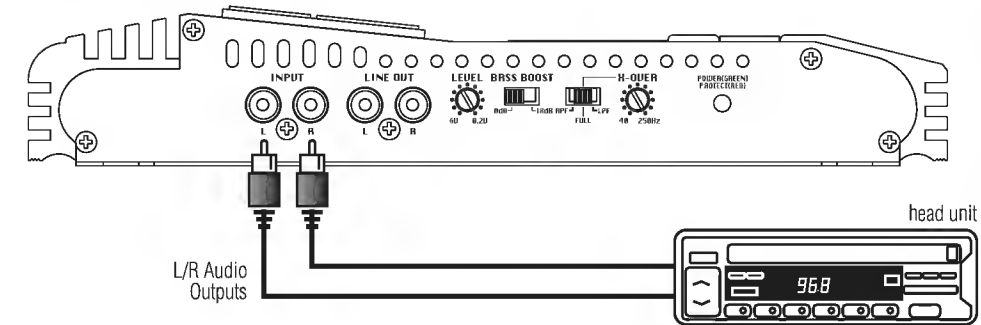
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VCT-2310 • VCT-2410
VCT-2510



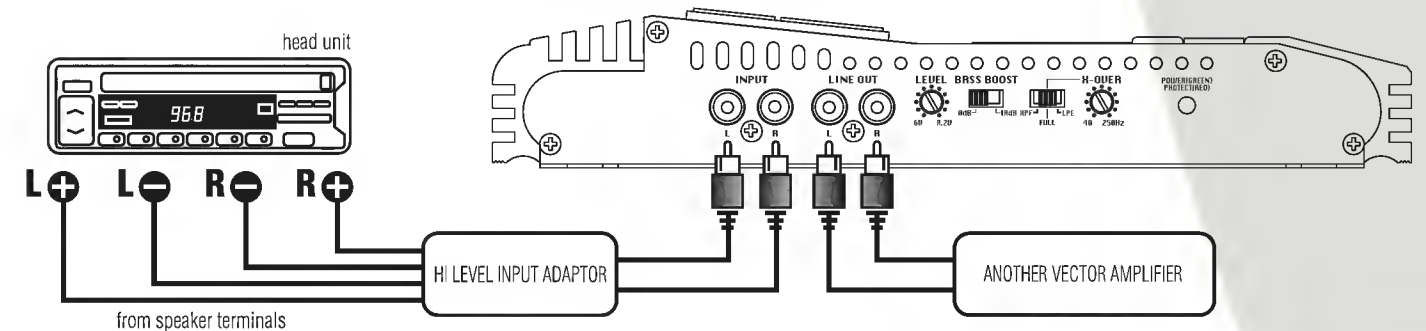
stereo input connections

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using low level inputs

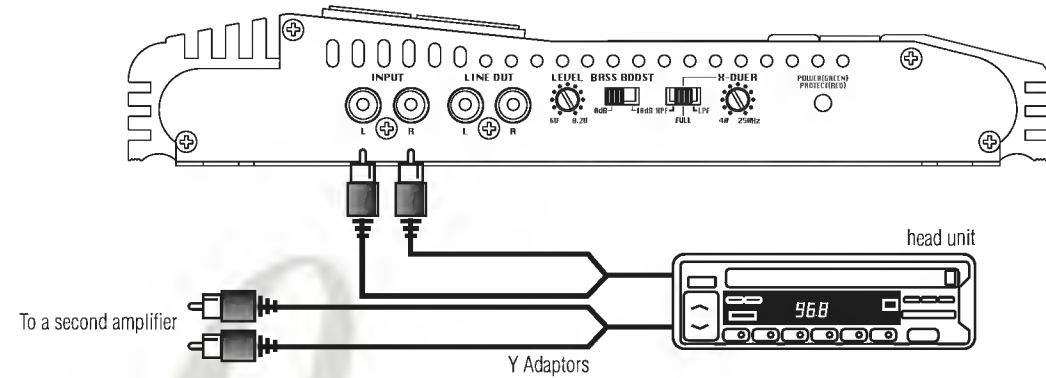


using high level inputs

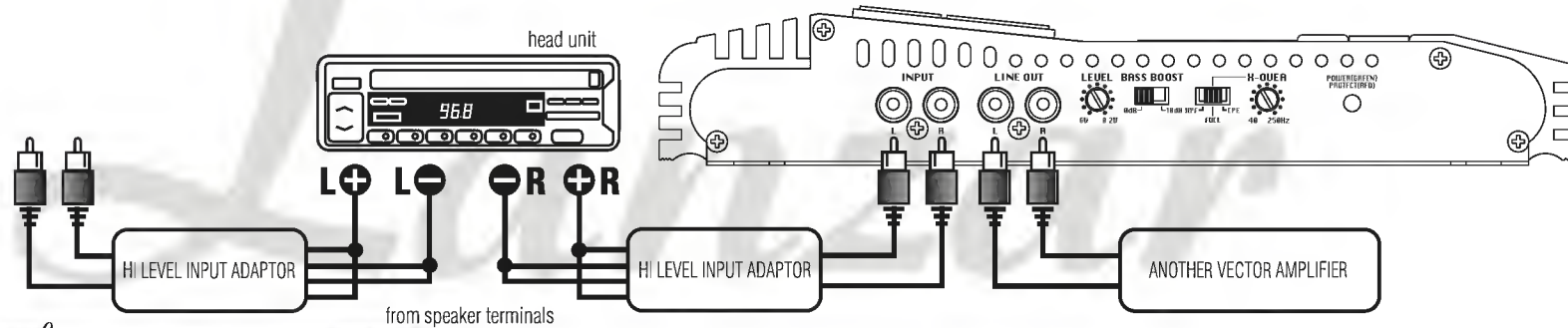


mono input connections

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using low level inputs

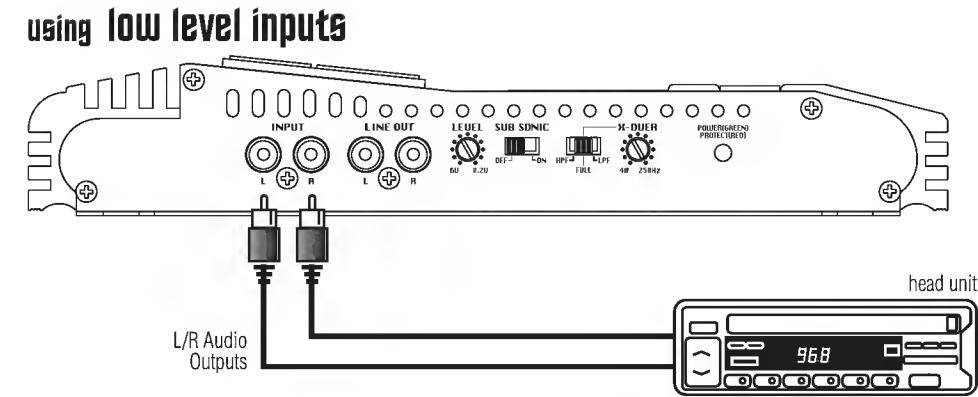


using high level inputs

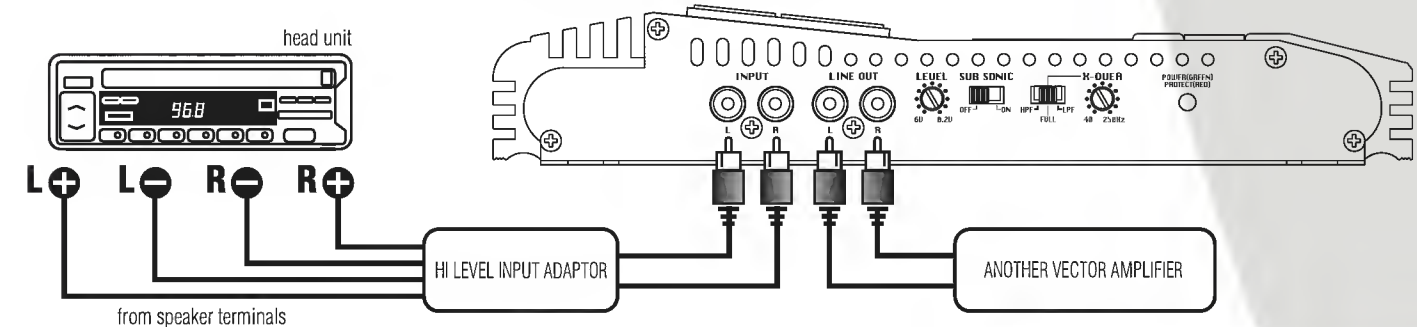


stereo input connections

2 ch amp • VCT-2310 • VCT-2410 • VCT-2510
using low level inputs



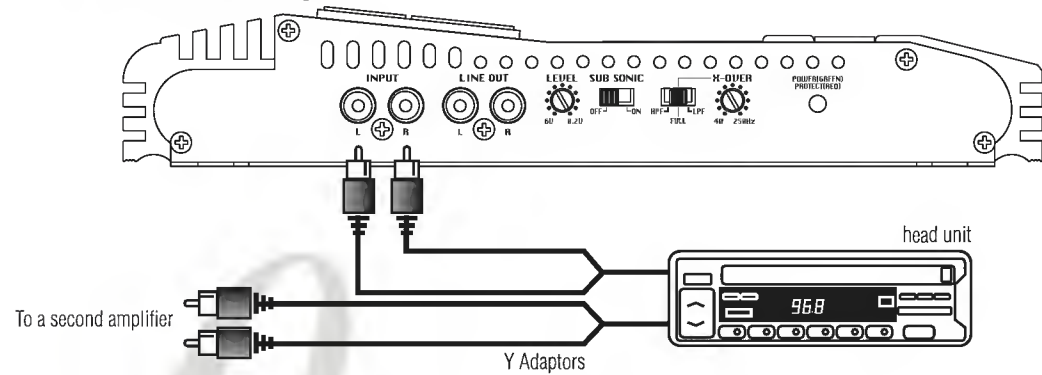
using high level inputs



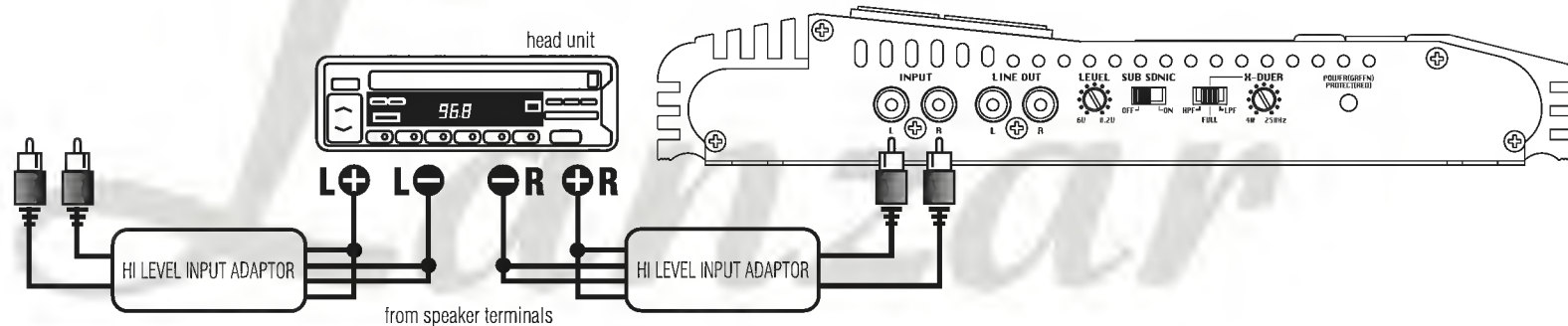
mono input connections

2 ch amp • VCT-2310 • VCT-2410 • VCT-2510

using low level inputs



using high level inputs



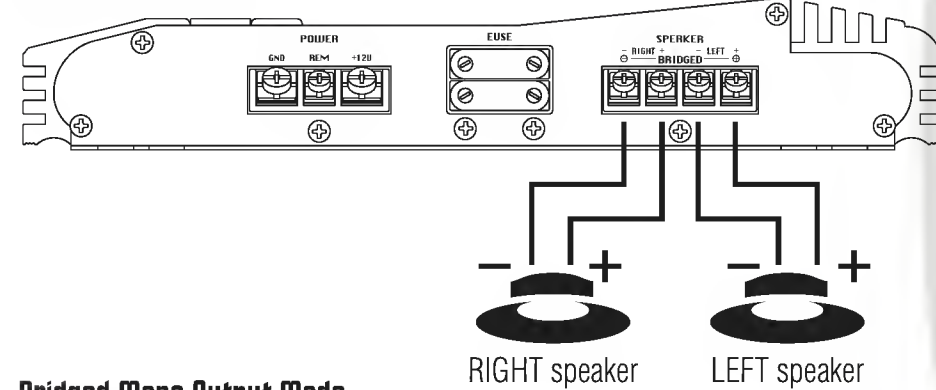
speaker connections

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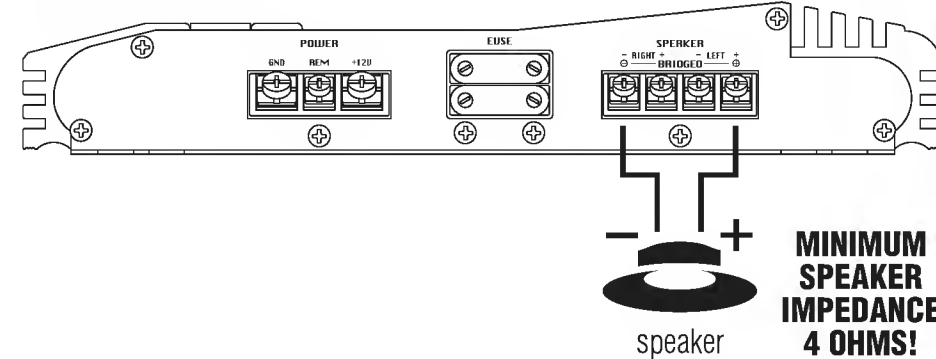
VCT-2310 • VCT-2410

VCT-2510

Stereo Output Mode



Bridged Mono Output Mode



mounting and installation

mounting

Your new Lanzar Vector Series amplifier comes complete with all required mounting hardware. When determining a suitable location in your vehicle for the amp, please remember that it is a high-power electronic device capable of generating high heat.

For this reason, **always choose a location in your vehicle which has low vibration, adequate ventilation, a minimum of dust, and no moisture.** Be sure to mount the amp in such a manner as to allow reasonable airflow over the cooling fins.

Mark the location for the mounting screw holes by positioning the amp where you wish to install it and use a scribe (or one of the mounting screws) inserted in each of the mounting holes to mark the mounting surface. If the mounting surface is carpeted, measure the hole centers and mark with a felt tip pen.

Before attempting to drill the mounting holes, take note of any wires, lines or other devices in your vehicle which may be located behind the mounting surface! Then drill pilot holes in the mounting surface for the mounting screws and insert them. Tighten the screws securely.

wiring tips

When making electrical connections to your amplifier, please observe the following:

Use at least 8 gauge wire for power and ground connections.

Wire the amplifier directly to the car battery.

For the ground connection, use the shortest possible wire to a good chassis ground point.

Wire the Remote connection to the auto start lead of your head unit, equalizer or power antenna.

fuses

About power fuses:

Lanzar Vector Series amplifiers feature built-in fuse systems. These fuses protect both the amplifier and the electrical system in your vehicle from fault conditions. If you ever need to replace the fuse in your Lanzar Vector Series amp, use a fuse of exactly the same type and rating. A different type or rating of fuse may result in damage or fire.

troubleshooting

protection circuitry

The built-in protection circuitry in the Lanzar Vector Series amplifiers will disable the amplifier if it senses an input overload, a speaker short circuit, or extreme temperature conditions.

When the protection circuit is activated by any of these conditions, the Protection LED will be illuminated.

If this occurs, carefully inspect the system to determine the source of the problem.

- If the shutdown was a result of a thermal overload condition, allow the amplifier to cool down before attempting to restart it.

- If the shutdown was a result of an input overload, or speaker short circuit, be sure to correct the condition before restarting.

The amplifier can be restarted by turning the remote power OFF and then ON again.

No output.

Confirm that all terminal strip connections are secure and tight.

Check both in-line and built-in fuses. Both the +12V and the Remote terminals must have +12v referenced to chassis ground.

Confirm that the audio signal source (car radio, equalizer, etc.) is connected and is supplying output signal. To check if the amp is supplying signal, unplug the cables from the signal source (but leave them plugged into the amp). Briefly tap the center pin of each of the disconnected RCA plugs with your finger. This should produce a noise (feedback) in your speakers.

Only one channel works.

Confirm that all terminal strip connections are secure and tight.

Check the Balance control on the head unit (or other source) to verify that it is set to its midpoint.

If you are using the Low Level RCA input, reverse the input plugs at the amplifier (i.e., switch the L with the R). If the channels which is silent switches to the other side, the problem is either in the head unit/other source or the connecting cables.

Weak output.

Readjust the Input Level Control(s) to better suit the input signal.

Noise in the audio.

If the noise is a "whine" whose pitch follows the engine speed, confirm that the amplifier and any other signal sources (head unit, etc.) are properly grounded.

If the noise is a "clicking" or "popping" noise whose rate follows the engine speed, this usually means that the vehicle is equipped with resistor spark plugs and wires, or that the ignition is in need of service.

Check the routing of the speaker and input wires to make sure they are not adjacent to wires which interconnect lights and other accessories.

If the above steps fail to improve or clear noise interference, the system should be checked by a professional mobile audio installer.

precautions

Do not operate the amplifier when it is unmounted. Attach all audio system components securely within the automobile to prevent damage, especially in an accident.

Do not mount this amplifier so that the wire connections are unprotected, or in a pinched condition, or likely to be damaged by nearby objects.

Before making or breaking power connections in your system, disconnect the vehicle battery. Confirm that your head unit or other equipment is turned off while connecting the input jacks and speaker terminals.

If you need to replace the power fuse, do so only with a fuse identical to that supplied with the amplifier. Using a fuse of a different type or rating may result in damage that isn't covered in the manufacturer's warranty.

